

Correlates of observing and willingness to report stigma towards HIV clients by (TB) health workers in Africa

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SUMMARY

SETTING: Health care facilities in Kenya, Tanzania and Namibia.

OBJECTIVE: To study the factors associated with the observation of and willingness to report stigmatising behaviour towards persons living with the human immunodeficiency virus (HIV) among health care workers (HCWs).

DESIGN: Mixed-effect logistic regression analyses of 9516 HCW interviews, including those of 4062 (43%) TB workers carried out as part of the Service Provision Assessments (SPAs) between 2006 and 2010.

RESULT: Discrimination (i.e., enacted stigma) was observed by respectively 1042 (60%), 384 (40%) and 907 (69%) TB workers in Kenya, Namibia and Tanzania, similar to the trend observed among all HCWs. Observations of discrimination were clustered at facility level in Kenya, and mapping of facility-level discrimination suggested geographic clustering. HCWs were more likely to observe discrimination in facilities

without regular supportive supervision (adjusted OR [aOR] 2.33, 95%CI 1.09–4.96). No HCW characteristics were found to predict intention to report. Training in patients' rights and in confidentiality predisposed HCWs to recognise discrimination (aOR 2.51, 95%CI 1.19–5.28) and the willingness to report it (aOR 2.23, 95%CI 1.11–4.47). Exposure to training in TB infection control (IC) was associated with greater willingness to report discrimination (aOR 2.13, 95%CI 1.03–4.39).

CONCLUSION: Supervision and exposure to training in patient's rights and confidentiality improved HCWs' understanding and advocacy of dignified and respectful TB-HIV care. All HCWs are equally likely to be allies, agents of change and amplifiers of an anti-stigma message, and broad engagement is required. Innovative approaches to reduce discrimination—while ensuring proper IC—should be explored.

KEY WORDS: discrimination; infection control; Kenya; Tanzania; Namibia

PROVIDING INFERIOR HEALTH CARE to persons diagnosed with stigmatised conditions such as tuberculosis (TB) or human immunodeficiency virus (HIV) infection, or subjecting them to unnecessary procedures or pain, are common forms of enacted stigma.^{1,2} More subtle forms of discrimination include verbal micro-aggression, avoidance and distrust by health care workers (HCWs).^{1,3–5}

Enacted stigma (i.e., discrimination) is the behavioural manifestation of disdain or disgust towards a stigmatised individual.⁶ Enacted stigma by HCWs toward people living with HIV (PLHIV) is typically measured through avoidance behaviours (e.g., over-referral) and the observed use of unnecessary and/or ineffective infection control (IC) precautions and provision of substandard care.^{7,8} Enacted HIV stigma is an issue in many TB service delivery settings because co-infection rates are high and at-risk populations overlap. The measurement and reduction of enacted stigma are essential to ensure the dignity and human rights of people who are ill. For practical

reasons, it is also crucial to ensure that such individuals continue to seek and receive life-saving care. Our perception of what constitutes stigmatising behaviour by HCWs is shaped by a wide array of normative influences.^{9,10} Sociodemographic characteristics, social position, exposure to training, organisational cultures and structures, and stigma may inform the nature of the health care provided and received.^{10–12} The reduction of enacted stigma by HCWs requires behavioural change. Theories of behavioural change underscore the importance of champions who can expedite the introduction of beneficial ideas, technologies and innovations.^{11,12} Less attention has been paid to the types of settings and people who champion the needs of marginalised or stigmatised patients. Research on what motivates 'speaking up' has focused narrowly upon whistleblowing for safety violations.^{13–15}

Based on the work of Heijnders & Van Der Meij,¹⁶ Pescosolido,⁹ Parker & Aggeleton,¹⁷ Stangl et al.,¹⁸ Wouters et al.,¹⁹ and Buregyeya et al.,^{20,21} as well as

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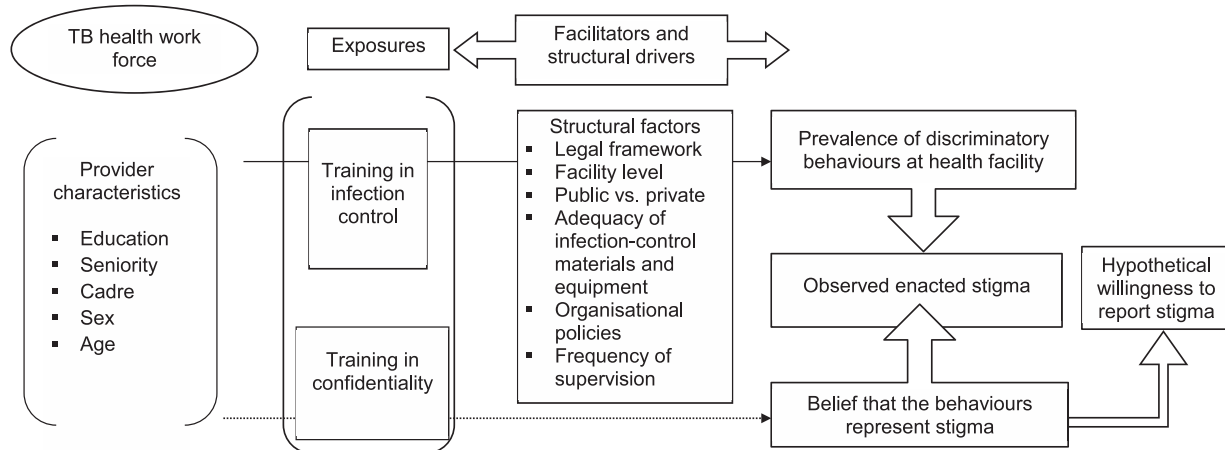


Figure 1 Conceptual framework-determinants of observing stigma and hypothetical willingness to report. TB = tuberculosis.

discussions held at a TB Stigma Measurement Workshop conducted in the Hague (The Netherlands) in 2016, we developed a conceptual framework (Figure 1) of determinants for observing enacted stigma and the willingness to report stigmatising behaviour. We first posited that observing enacted stigma is a function of an HCW's particular view (e.g., sociodemographics, HIV status, TB status), their exposure to training (e.g., in-service IC training, education), as well as the actual prevalence of discrimination in the setting, which is influenced by organisational structures and policies (e.g., supervision, peer norms) and interpersonal behaviour norms. Furthermore, we posited that the willingness to speak up against stigma would also be informed by an HCW's personal characteristics, health care roles (TB care provision), formative exposure and proclivity toward risk taking.²²

To test these hypotheses, we conducted exploratory analysis using provider-level data from three Service Provision Assessment (SPA) surveys in Kenya, Tanzania and Namibia. We aimed to identify the factors associated with speaking up against stigma as a means of informing the development of TB and HIV human rights and anti-discrimination interventions. Kenya, Tanzania and Namibia have generalised HIV epidemics impacting broad swathes of the populace, and HIV is the main driver of their TB epidemics. The legal framework safeguarding TB-HIV patient rights has been dynamic in Africa, as has the public's tolerance of stigmatisation of PLHIV.^{23,24} A 2006 Kenyan law criminalising HIV transmission and non-disclosure was appealed in 2010 and overturned in 2015. Although Tanzania passed a PLHIV anti-discrimination law in 2008, regulations for the implementation of the law remain in the draft stage. In Namibia, legal cases brought against HCWs who sterilised PLHIV in 2005–2007 were unsuccessful, suggesting that stricter rules to identify PLHIV discrimination are required.

STUDY POPULATION AND METHODS

Data

Provider-level data from three SPA surveys (Tanzania SPA 2006, Namibia SPA 2009 and Kenya SPA 2010) were chosen because of their identical discrimination scales. Details of SPA survey instruments and sampling procedures are available online and described for each country in country reports.^{25–27} Standardised methodologies and instruments that provide comparable data across time and countries were used. Briefly, the SPA is a national health facility assessment that provides a comprehensive overview of a country's health service delivery. The SPA is conducted as part of the Demographic Health Survey (DHS) project, and covers a range of clinical areas, such as TB, HIV/AIDS (acquired immune-deficiency syndrome), laboratory services, etc., and enabling factors such as infrastructure, record keeping, IC, human resource management, incentive schemes, supervision and quality assurance.

A health worker/provider interview battery probes the respondent's range of clinical tasks and exposure to training. The surveys include indirect, disease-specific and non-specific stigma questions in Section 9 'Working with HIV/AIDS' for clients of the health worker interview (see Appendix for an overview of stigma-related questions used in selected SPA surveys).^{*} Global positioning system (GPS) readings were available for health facilities in Kenya and Namibia. The data set for secondary analyses included respectively 695 (11.2% of total), 411 (92.2% of total) and 611 (10.8% of total) facilities in Kenya, Namibia and Tanzania, and respectively 3135, 1708 and 2600 respondents.

^{*} The appendix is available in the online version of this article, at <http://www.ingentaconnect.com/content/iuatld/ijtld/2017/00000021/a00111s1/art00004>

Measures

To identify factors associated with the observation of enacted stigma in health institutions and HCWs' willingness to speak up against stigma, we defined two main outcomes at the provider level: 1) observed enacted stigma behaviour within health facilities, and 2) willingness to report stigma if observed (hypothetically) outside the health facility. This was the only question available to identify possible champions who would be willing to speak up against stigma.

An HCW was categorised as 'yes, I have observed enacted stigma behaviour within the health facility' if he/she indicated that in the previous 12 months he/she had observed at least one out of seven listed examples of stigmatising behaviour because a client had known/suspected HIV/AIDS (see Table 1 for the seven examples). Willingness to report stigma when observed outside the health facility was assessed with a binary variable (yes, no) based on the question: 'If you ever saw any of the above types of stigma happening to a client because s/he is a person living with HIV/AIDS, would you be willing to inform the authorities or relevant groups if they existed?'

Associations among all HCWs, and TB care providers specifically, were explored. TB care providers (workers) were defined as those who diagnose, treat or follow-up TB, diagnose/treat opportunistic infections and/or provide preventive treatment for TB (isoniazid) in PLHIV.

Both HCW characteristics and health facility characteristics were included as independent variables in the analysis. The selection of variables was guided by a conceptual framework (Figure 1). HCW characteristics were sex, age, education, type of provider, services rendered, training received, and public or private facility (see Appendix for detailed operationalisation of these characteristics).

Statistical analyses

Statistical analyses were performed using Stata SE14 (StataCorp, College Station, TX, USA). 'Svy' commands were used to adjust for sampling design, sampling weights and the calculation of standard errors. 'Health facility' was used as the primary sampling unit. The sampling frames of the Kenya and Tanzania surveys had been stratified, and 'region/zone' was used as strata for both surveys. The Kenya survey also included other strata (type of facility and managing authority), but these were not included in our analysis as this led to strata with single sampling units. All data were weighted using health care provider weight and facility weights according to the weights by country.^{25–27} In Namibia, the facility weight for all facilities was 1, as no sampling was done.

Unadjusted odds ratios (ORs) and adjusted ORs (aORs) were calculated to estimate the strength of the association (correlation) between the characteristics

of HCWs and facilities, and the two main outcomes. Mixed-effect logistic regression models were used (by applying the *melogit* command) to calculate bivariate and multivariate-adjusted ORs and their 95% confidence intervals (CIs). As 'health facility' was included as a random effect, and 'country' as a fixed effect in these models, no weight was used for 'country'. To estimate an aOR, we first built a multivariate model including all independent variables (aOR-1). We then eliminated those variables with $P > 0.1$ in the full model (aOR-2). The results of both models are presented to illustrate the explorative analyses (for additional details, see Appendix).

Reported observations of enacted stigma should be clustered in health facilities if they are informed by real events. To quantify the degree to which HCWs, and specifically, TB workers, from one facility resemble each other in their observation of discrimination, intraclass correlation (ICC) at the facility level was estimated based on the final multivariate model using the method of Merlo et al. for binary outcomes (overall and for each country separately).²⁸ For geo-coded surveys (Kenya and Namibia), the proportion of TB workers observing discrimination was calculated for facilities with three or more TB workers interviewed (unweighted results) and visualised using histograms and maps.

RESULTS

Sample characteristics

A total of 3309 (35%) male and 6207 (65%) female HCWs were included in the analyses; the majority worked in the dispensary ($n = 4977$, 52%), followed by clinics ($n = 2020$, 21%). Of all care providers, 4062 (43%) provided TB services, accounting for respectively 36%, 45% and 58% in Kenya, Tanzania and Namibia. Table 1 shows the HCW responses to stigma-related questions. The general characteristics of HCWs and health facilities by survey are available in the Appendix.

Recognition of enacted stigma

Among TB providers ($n = 3795$), discrimination was observed by respectively 1042 (60%), 384 (40%) and 907 (69%) in Kenya, Namibia and Tanzania (Table 2). TB workers in Namibia were less likely to have observed stigma (aOR 0.11, 95%CI 0.05–0.25). Nurses or midwives were less likely to observe discrimination than clinicians (aOR 0.37, 95%CI 0.21–0.65).

Observations of discriminatory behaviour towards PLHIV were reported by respectively 2754 (57%), 629 (38%), 1941 (66%) of all HCWs in Kenya, Namibia and Tanzania. In Kenya and Tanzania, the two most observed frequently behaviours were 'using latex gloves for non-invasive examinations on patients with suspected HIV' (36% and 44%, respec-

Table 1 Health care worker responses to stigma-related questions in SPA surveys conducted in Kenya, Namibia and Tanzania

Question	Kenya 2010 (n = 4875) n (%)	Namibia 2009 (n = 1679) n (%)	Tanzania 2006 (n = 2964) n (%)
Should a health care worker with HIV who is not ill be allowed to work?			
Yes	4490 (92)	1583 (94)	2745 (93)
No	364 (8)	42 (3)	198 (7)
Do not know	15 (0.3)	3 (0.2)	7 (0.2)
Missing	6 (0.1)	51 (3)	15 (0.4)
In the past 12 months, have you seen or observed the following happening in this health care facility because a client was known or suspected of having HIV/AIDS? (Each scenario is read)			
Test a client for HIV without consent (Yes)	1020 (21)	51 (3)	215 (7)
Require some clients to be tested for HIV before surgery (Yes)	352 (7)	221 (12)	222 (8)
Using latex gloves for non-invasive examinations of clients with suspected HIV (Yes)	1758 (36)	258 (15)	1304 (44)
Additional sterilisation precautions for equipment used on HIV+ patients (Yes)	1331 (27)	212 (13)	1366 (46)
Health providers gossiping about a client's HIV status (Yes)	827 (17)	229 (14)	477 (16)
Senior health provider shifting care of a HIV+ client to junior health provider (Yes)	344 (7)	57 (3)	115 (4)
HIV+ client receiving less care/attention (Yes)	432 (9)	83 (5)	228 (8)
All responses to the questions above were negative	1084 (22)	598 (36)	373 (13)
At least one of the responses was positive	2754 (57)	629 (38)	1941 (66)
None of the responses were positive	977 (20)	418 (25)	598 (20)
Missing values, 'not applicable' or 'do not know' responses	60 (1)	35 (2)	52 (2)
Have you ever heard of the word 'stigma'?			
No	42 (1)	156 (9)	78 (3)
Yes	4395 (90)	1499 (89)*	2884 (97)*
Yes, after explanation	435 (9)	—	—
Missing	3 (0.01)	24 (1.4)	4 (0.01)
Does stigmatising behaviour occur in health facilities?			
No	1870 (38)	979 (58)	1730 (58)
Yes	2958 (61)	679 (41)	1230 (42)
Missing	46 (1)	21 (1.2)	4 (0.01)
Please give me some examples of stigmatising behaviour in this health facility?			
Using latex gloves for non-invasive examinations on clients with suspected HIV (Yes)	860 (18)	108 (6)	360 (12%)
Additional sterilisation precautions for equipment used on HIV+ patients (Yes)	484 (10)	44 (3)	166 (6%)
Health providers gossiping about a client's HIV status (Yes)	1546 (31)	206 (12)	423 (14%)
HIV+ clients receiving less care/attention (Yes)	773 (16)	122 (7)	658 (23%)
Senior health provider shifting care of a HIV+ client to junior health provider (Yes)	279 (6)	30 (1.8)	82 (3%)
Staff unwilling to shake hands with a HIV+ client (Yes)	450 (9)	52 (3)	370 (13%)
Other	557 (11)	102 (6)	18 (1)
Don't know if occurs	108 (2)	104 (6)	157 (5)
At least one of the examples above or other was provided	2850 (59)	415 (25)	995 (34)
Does stigmatising behaviour occur outside the health facility?			
No	265 (5)	249 (15)	437 (15)
Yes	4562 (94)	1409 (84)	2519 (85)
Missing	48 (1)	21 (1)	8 (0.3)
Where have you observed or heard stigma occur outside the health facility?			
Household/family (Yes)	2824 (58)	636 (38)	1886 (64)
Community (Yes)	3498 (72)	892 (53)	1733 (59)
Workplace (Yes)	1396 (29)	191 (11)	417 (14)
Places of worship (Yes)	844 (17)	108 (6)	134 (5)
Places of entertainment (Yes)	595 (12)	202 (12)	349 (12)
Learning institutions (Yes)	93 (2)	24 (1)	—
Other places (Yes)	384 (8)	29 (2)	14 (0.3)
Yes to any of the above examples (Yes)	4276 (88)	1089 (65)	2308 (78)
Please give me some examples of stigmatising behaviour that occur outside this health facility?			
Separation/divorce if one partner is HIV+ (Yes)	1955 (40)	304 (18)	1031 (35)
Neighbours/family gossip about HIV status (Yes)	2892 (59)	593 (35)	1012 (34)
Not using the business of a person who is HIV+ (Yes)	625 (13)	88 (5)	169 (6)
Families/neighbours reluctant to provide funds for care (Yes)	1437 (30)	242 (14)	833 (28)
Family members unwilling to share bed/utensils with patient (Yes)	1933 (40)	586 (35)	1766 (60)
Isolation/abandonment (Yes)	469 (10)	14 (1)	—
Other	319 (7)	147 (9)	60 (2)
Missing	45 (1)	19 (1)	1 (0)
At least one of the examples listed above or Other	4280 (88)	1084 (65)	2315 (78)
If you ever saw any of the above types of stigmatising behaviour happening to a person because s/he is a PLWHA, would you be willing to inform the authorities or relevant groups if they existed?			
No	611 (12.5)	274 (16.3)	834 (28)
Yes	3586 (73.6)	784 (46.7)	1443 (49)
Don't know	67 (1.4)	29 (1.7)	35 (1)
Missing	611 (12.5)	591 (35)	652 (22)

* No distinction was made between a spontaneously answered 'yes' and 'yes' given after providing an explanation.

SPA = Service Provision Assessment; HIV = human immunodeficiency virus; AIDS = acquired immune-deficiency syndrome; + = positive; PLWHA = people living with HIV/AIDS.

Table 2 Tuberculosis health care provider and organisational characteristics associated with having observed discrimination (enacted stigma) in their health facility

Characteristic	Multivariate analyses	
	aOR-1 (95%CI)* (n = 3732)	aOR-2 (95%CI) [†] (n = 3741)
Sex		
Male	Reference	—
Female	0.77 (0.48–1.23)	—
Age category, years		
20–29	Reference	—
30–39	0.59 (0.31–1.11)	—
40–49	0.86 (0.45–1.66)	—
≥50	0.79 (0.40–1.58)	—
Type of provider		
Clinician	Reference	Reference
Nurse/midwife	0.44 (0.24–0.82) [‡]	0.37 (0.21–0.65) [‡]
Auxiliary nurse	0.82 (0.33–2.03)	0.55 (0.25–1.18)
Laboratory staff	8.85 (0.82–95.5) [§]	6.86 (0.59–79.89)
HIV counsellor	0.45 (0.07–2.75)	0.37 (0.05–2.83)
Other	0.19 (0.07–0.54) [§]	0.14 (0.05–0.36) [‡]
Education level, quantiles [#]		
1	Reference	—
2	1.28 (0.64–2.54)	—
3	1.59 (0.87–2.90)	—
4	1.42 (0.63–3.21)	—
Infection control training received		
None	Reference	Reference
Yes in the previous year	0.58 (0.35–0.96) [‡]	0.65 (0.39–1.08) [§]
Yes in the previous 2–3 years	0.89 (0.51–1.58)	0.92 (0.48–1.77)
Training in confidentiality received		
No	Reference	—
Yes, in the previous year	1.29 (0.67–2.50)	—
Yes, in the previous 2–3 years	0.76 (0.46–1.26)	—
Supervision received		
None	Reference	—
Yes, >3 months ago	0.91 (0.40–2.07)	—
Yes, <3 months ago	0.63 (0.30–1.36)	—
Provide HIV counselling		
No	Reference	—
Yes	1.15 (0.70–1.86)	—
Stigma occurs within the health facility		
No	Reference	Reference
Yes	1.92 (1.12–3.32) [‡]	2.05 (1.19–3.52) [‡]
Type of facility		
Hospital	Reference	Reference
Health centre	0.34 (0.19–0.60) [‡]	0.31 (0.17–0.54) [‡]
Clinic	0.11 (0.05–0.23) [‡]	0.13 (0.06–0.26) [‡]
Dispensary	0.14 (0.06–0.32) [‡]	0.12 (0.05–0.27) [‡]
Other	0.25 (0.08–0.79) [‡]	0.31 (0.10–0.91) [‡]
Managing authority		
Public	Reference	—
Private	1.48 (0.75–2.91)	—
Country		
Kenya	Reference	Reference
Namibia	0.14 (0.06–0.31) [‡]	0.11 (0.05–0.25) [‡]
Tanzania	1.24 (0.48–3.18)	1.17 (0.49–2.75)

* ORs adjusted for all variables (full model).

[†] ORs adjusted for those variables with $P < 0.1$ in the full model.[‡] $P < 0.05$.[§] $P < 0.1$.[#] See Appendix for more information.

aOR = adjusted OR; CI = confidence interval; OR = odds ratio; HIV = human immunodeficiency virus.

tively) and ‘extra sterilisation precautions for equipment used on HIV+ patients’ (27% and 46%, respectively). In Namibia and Tanzania, <10% of health care providers observed non-consensual HIV testing, while in Kenya non-consensual HIV testing

was reported by 21% of HCWs. Multivariate analysis (aOR-2) showed that health care staff in Namibia were less likely to have observed discrimination than HCWs in Kenya (aOR 0.23, 95%CI 0.13–0.41; Table 3). Like nurses and midwives (aOR

Table 3 Health care provider and organisational characteristics associated with having observed discrimination (enacted stigma) within their health facility

Characteristic	Health care provider observing discrimination				Bivariate analyses*	Multivariate analyses	
	Kenya <i>n</i> (%)	Namibia <i>n</i> (%)	Tanzania <i>n</i> (%)	Overall (yes) [†] <i>n</i> (%)	OR (95%CI)	aOR-1 (95%CI) [‡] (<i>n</i> = 6080)	aOR-2 (95%CI) [§] (<i>n</i> = 7142)
Sex							
Male	1131 (64)	154 (37)	754 (68)	2039 (62)	Reference	Reference	—
Female	1623 (53)	475 (39)	1187 (66)	3286 (54)	0.62 (0.41–0.94) [¶]	0.81 (0.52–1.27)	—
Age category, years							
20–29	868 (58)	210 (44)	238 (67)	1316 (57)	Reference	Reference	—
30–39	824 (55)	137 (33)	581 (62)	1542 (54)	0.47 (0.26–0.92)	0.61 (0.34–1.03)	—
40–49	678 (61)	145 (37)	671 (68)	1439 (60)	0.91 (0.38–2.16)	1.43 (0.70–2.94)	—
≥ 50	384 (53)	137 (38)	452 (70)	972 (56)	0.72 (0.39–1.33)	0.97 (0.55–1.74)	—
Type of provider							
Clinician	351 (67)	46 (61)	551 (69)	948 (68)	Reference	Reference	Reference
Nurse/midwife	1419 (58)	419 (40)	485 (67)	2322 (55)	0.53 (0.33–0.84) [¶]	0.67 (0.40–1.14)	0.49 (0.30–0.80) [¶]
Auxiliary nurse	191 (42)	12 (57)	660 (61)	862 (55)	0.36 (0.21–0.60) [¶]	0.73 (0.39–1.37)	0.41 (0.25–0.67) [¶]
Laboratory staff	504 (63)	42 (58)	202 (79)	748 (66)	0.89 (0.41–1.92)	3.45 (0.58–20.5)	1.03 (0.47–2.25)
HIV counsellor	260 (51)	91 (28)	4 (29)	355 (42)	0.5 (0.22–1.14) [#]	0.63 (0.19–2.14)	0.42 (0.21–0.85) [¶]
Other	29 (33)	19 (18)	10 (98)	58 (28)	0.21 (0.08–0.61) [¶]	0.31 (0.10–0.94) [¶]	0.19 (0.07–0.56) [¶]
Education level, quantiles**							
1	872 (52)	120 (28)	819 (66)	1811 (54)	Reference	Reference	—
2	927 (56)	170 (39)	251 (63)	1347 (54)	0.73 (0.41–1.31)	0.92 (0.57–1.48)	—
3	572 (64)	205 (41)	680 (68)	1457 (61)	1.16 (0.75–1.79)	1.31 (0.82–2.09)	—
4	384 (64)	135 (47)	191 (70)	710 (62)	2.13 (1.14–3.99) [¶]	1.31 (0.71–2.43)	—
Training in infection control received							
None	1647 (59)	339 (39)	1708 (67)	3695 (60)	Reference	Reference	Reference
Yes, in the previous year	557 (56)	142 (34)	110 (61)	808 (51)	0.86 (0.56–1.33)	0.54 (0.33–0.89) [¶]	0.60 (0.33–1.09) [#]
Yes, in the previous 2–3 years	550 (53)	148 (40)	123 (64)	821 (51)	1.02 (0.52–1.97)	0.86 (0.44–1.68)	0.77 (0.43–1.36)
Training in confidentiality received							
No	1589 (52)	366 (37)	1613 (65)	3568 (55)	Reference	Reference	Reference
Yes, in the previous year	608 (61)	124 (44)	214 (76)	946 (61)	2.05 (1.11–3.79) [¶]	3.04 (1.48–6.25) [¶]	2.51 (1.19–5.28) [¶]
Yes, in the previous 2–3 years	557 (73)	139 (39)	112 (74)	807 (63)	1.42 (0.92–2.20)	1.50 (0.92–2.44)	1.54 (0.99–2.42) [#]
Supervision received							
None	442 (54)	110 (42)	208 (60)	759 (54)	Reference	Reference	Reference
Yes, >3 months ago	732 (73)	131 (42)	452 (65)	1315 (66)	2.28 (1.04–5.00) [¶]	2.18 (1.04–4.54) [¶]	2.33 (1.09–4.96) [¶]
Yes, <3 months ago	1581 (53)	388 (36)	1279 (68)	3248 (55)	1.37 (0.72–2.60)	1.46 (0.72–2.99)	1.51 (0.78–2.94)
Provide HIV counselling							
No	383 (43)	235 (39)	1253 (63)	1871 (54)	Reference	Reference	Reference
Yes	1867 (60)	363 (37)	498 (77)	2728 (58)	1.81 (1.22–2.71) [¶]	1.42 (0.92–2.21) [#]	1.45 (0.92–2.30)
Provide TB-related services							
No	1208 (53)	127 (41)	847 (64)	2182 (56)	Reference	Reference	—
Yes	1042 (60)	384 (40)	907 (69)	2333 (58)	1.53 (0.90–2.60)	1.32 (0.86–2.03)	—
Stigma occurs within the health facility							
No	983 (53)	297 (31)	1094 (64)	2373 (52)	Reference	Reference	Reference
Yes	1755 (60)	331 (49)	845 (70)	2931 (61)	1.43 (0.88–2.39)	1.65 (1.13–2.42) [¶]	1.38 (0.89–2.15)
Type of facility							
Hospital	160 (75)	357 (58)	185 (86)	703 (67)	Reference	Reference	Reference
Health centre	384 (71)	89 (30)	360 (72)	833 (63)	0.39 (0.26–0.59) [¶]	0.43 (0.26–0.71) [¶]	0.44 (0.29–0.67) [¶]
Clinic	580 (44)	172 (26)	—	753 (38)	0.12 (0.07–0.21) [¶]	0.09 (0.04–0.17) [¶]	0.11 (0.07–0.20) [¶]
Dispensary	1599 (59)	—	1396 (63)	2994 (61)	0.26 (0.15–0.45) [¶]	0.27 (0.14–0.52) [¶]	0.33 (0.19–0.56) [¶]
Other	31 (75)	11 (15)	—	41 (37)	0.17 (0.10–0.30) [¶]	0.16 (0.07–0.37) [¶]	0.15 (0.08–0.28) [¶]
Managing authority							
Public	1416 (55)	561 (37)	1097 (65)	3074 (53)	Reference	Reference	Reference
Private	1338 (59)	67 (50)	845 (69)	2250 (62)	1.17 (0.73–1.88)	1.88 (1.09–3.27) [¶]	1.40 (0.88–2.21)
Country							
Kenya				2754 (57)	Reference	Reference	Reference
Namibia				623 (38)	0.12 (0.07–0.19) [¶]	0.19 (0.09–0.39) [¶]	0.23 (0.13–0.41) [¶]
Tanzania				1941 (67)	1.47 (0.92–2.35)	1.49 (0.68–3.24)	1.17 (0.61–2.27)

* Country was included as a fixed effect in all bivariate models, the individual ORs per model are not presented in this table but ranged from 0.08 (HIV counselling) to 0.14 (facility type) (all $P < 0.05$) in Namibia, and for Tanzania from 1.22 (facility type) to 2.2 (HIV counselling).

[†] Due to rounding the overall number of weighted observations differs by 1 observation from the sum of the individual countries weighted number of observations.

[‡] ORs adjusted for all variables (full model).

[§] ORs adjusted for those variables with $P < 0.1$ in the full model.

[¶] $P < 0.05$.

[#] $P < 0.1$.

** See Appendix for more information.

OR = odds ratio; CI = confidence interval; aOR = adjusted OR; HIV = human immunodeficiency virus; TB = tuberculosis.

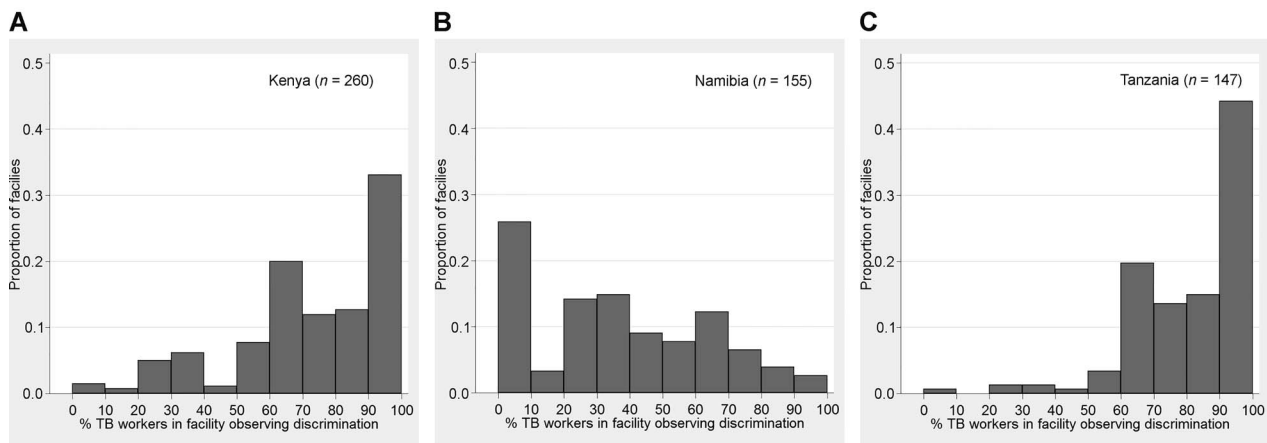


Figure 2 Frequency distribution of the proportion of TB workers in each facility who had observed discrimination among facilities with >2 TB workers by country: A) Kenya ($n = 260$), B) Namibia ($n = 155$), C) Tanzania ($n = 147$). TB = tuberculosis.

0.49, 95%CI 0.30–0.80), auxiliary nurses (aOR 0.41, 95% CI 0.25–0.67) and HIV counsellors (aOR 0.42, 95%CI 0.21–0.85) were less likely to observe discrimination than clinicians. Individuals who had received training in confidentiality in the previous year or supervision >3 months previously were more likely to have observed discrimination than those who did not receive training (aOR 2.51, 95%CI 1.19–5.28) and those who did not receive supervision (aOR 2.33, 95%CI 1.09–4.96). Working in a clinic was associated with a reduced chance of having observed stigma (aOR 0.11, 95%CI 0.07–0.20) compared with working in a hospital. Having received IC training in the previous year tended to reduce the likelihood of observing behaviours as discriminatory by all HCWs (non-statistically significant in aOR-2) (aOR 0.60, 95%CI 0.33–1.09) and by TB workers (aOR 0.65, 95%CI 0.39–1.08).

Consistency of observing discrimination within facilities (clustering)

The ICC of observing discrimination among all HCWs in the same facility was 0.61 overall, and 0.84, 0.13 and 0.50 in Kenya, Namibia and Tanzania, respectively, indicating clustering of observing discrimination at facility level in Kenya but not in Namibia. Similar results were found among TB workers: overall ICC was 0.70, and 0.90, 0.13 and 0.80 in Kenya, Namibia and Tanzania, respectively.

Figure 2 shows the frequency distribution of the proportion of TB workers per facility (among facilities with >2 TB workers) observing discrimination per country. Distinct patterns were noted: in 33% of facilities in Kenya, 100% of TB workers observed discrimination, generally in the form of gossip about HIV status, whereas 3% in Namibia and 44% in Tanzania observed discrimination. In 26% of the facilities in Namibia, none of the TB workers observed discrimination, compared with respectively 2% and 1% in Kenya and Tanzania. Figure 3 and 4

show the spatial distribution of these proportions for Kenya and Namibia. Visual inspection of the maps suggests geographic clustering of facilities in which a large proportion of the TB workers observed discrimination, especially in Kenya.

Willingness to report discrimination (hypothetical)

Overall, 77% of HCWs (63% in Tanzania, 74% in Namibia, 85% in Tanzania) indicated a willingness to report stigma. HCWs aged 30–39 years were twice as likely to be willing to report stigma as those aged 20–29 years (aOR 2.19, 95%CI 1.24–3.87). Willingness to report stigma was positively associated with having received IC training in the previous 2–3 years (aOR 2.23, 95%CI 1.11–4.47) and training in confidentiality in the previous year (aOR 2.23, 95%CI 1.11–4.47). Clinic-based HCWs were more likely to report stigma than hospital staff (aOR 2.09, 95%CI 1.16–3.78). Working in private facilities and having received IC training in the previous year were nearly significantly associated with willingness to report stigma (Table 4).

Among 3271 TB care providers, the proportion of individuals willing to report stigma was comparable with the total group of HCWs: overall 76% ($n = 2494$), 63% in Tanzania, 74% in Namibia and 87% in Kenya. In-depth analyses of TB workers showed similar associations with age (30–39 years, aOR 2.88; 95%CI 1.36–6.10) and IC training in the previous 2–3 years (aOR 2.13, 95%CI 1.03–4.39) to the general HCW population. Individuals having observed stigma in the health facility were also twice as likely to report stigma (aOR 1.85, 95%CI 1.05–3.27; Table 5).

DISCUSSION

Results

Consistency/clustering of observing stigma

Staff observations tended to be clustered (i.e., non-random) in Kenya and Tanzania (the latter to a lesser extent). HCWs within a facility tended to agree on the

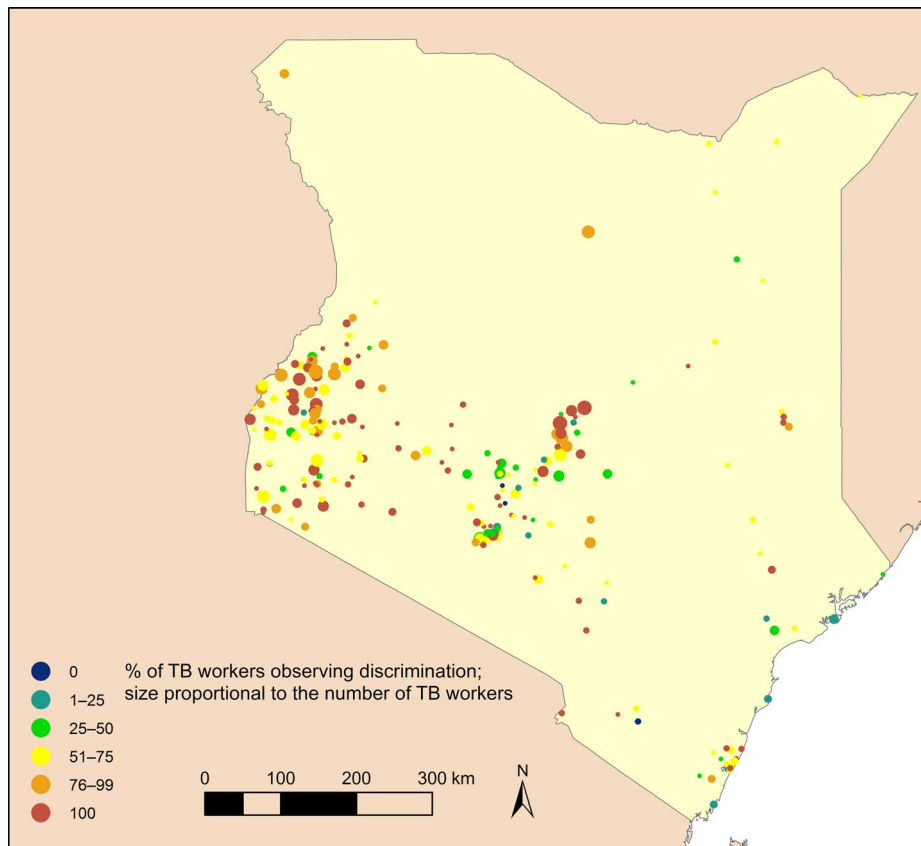


Figure 3 Map of Kenya showing 260 facilities with 1200 TB workers, 74% of whom observed discrimination (number of TB workers per facility ranged from 3 to 9). TB=tuberculosis. This image can be viewed online in colour at <http://www.ingentaconnect.com/content/iatld/ijtld/2017/00000021/a00111s1/art00004>

question of whether or not stigmatising behaviour had occurred. This consistency of responses is reassuring because it suggests that discriminatory behaviours can be reliably self-reported. If inter-rater reliability of observed discrimination is low in health facilities (as in Namibia), this calls into question the method of HCW self-reporting for stigma measurement. Nyblade et al. measured the occurrence of enacted stigma in health facilities by asking health facility staff how often they had observed three discriminatory behaviours at their health facility.⁸ Considerable variation was seen among the six countries.^{7,8} Independent directed observation may provide a better metric than peer report, as there should be a shared definition of discriminatory behaviour in a clinical setting. If inter-rater reliability is low, direct measurement using qualitative research may be needed to tease out why some staff see stigmatising behaviours at the facility while others do not.²⁹ It is possible that the HCWs interviewed may not all have been present simultaneously when the stigmatising act took place. Mapping of facility-level discrimination also suggested geographic clustering. In South Africa, sub-district location of community health workers was significantly associated with TB-HIV attitude scores.^{7,30}

Recognition of enacted stigma (discrimination)

On the whole, HCWs and the TB workers in Namibia were less likely to observe discrimination than their colleagues in Kenya. This is counter-intuitive, because in the DHS the three countries report similar degrees of stigma in the general population.³¹ While Kenyan HCWs may appear to be more observant of discrimination in health care facilities, this may be a temporal effect of later survey performance (2010 in Kenya vs. 2006 in Tanzania, 2009 in Namibia) and/or differences in anti-discrimination training. Stigmatising attitudes toward TB and HIV are highly dynamic.³¹

Unsurprisingly, discrimination is more frequently observed in health facilities without regular supervision. This makes sense because discrimination does not emerge spontaneously but is fostered, and needs a permissive climate to persist.¹⁷ Regular supervision is a means of addressing stigma and preventing the emergence and perpetuation of stigma in health care settings. Stigma is sustained by structural and organisational policies that marginalise and diminish.⁶ Clinicians were most likely to have observed one of the seven stigmatising behaviours. Within the group of TB providers, nurses/midwives were less likely to observe TB stigma. TB providers in hospitals

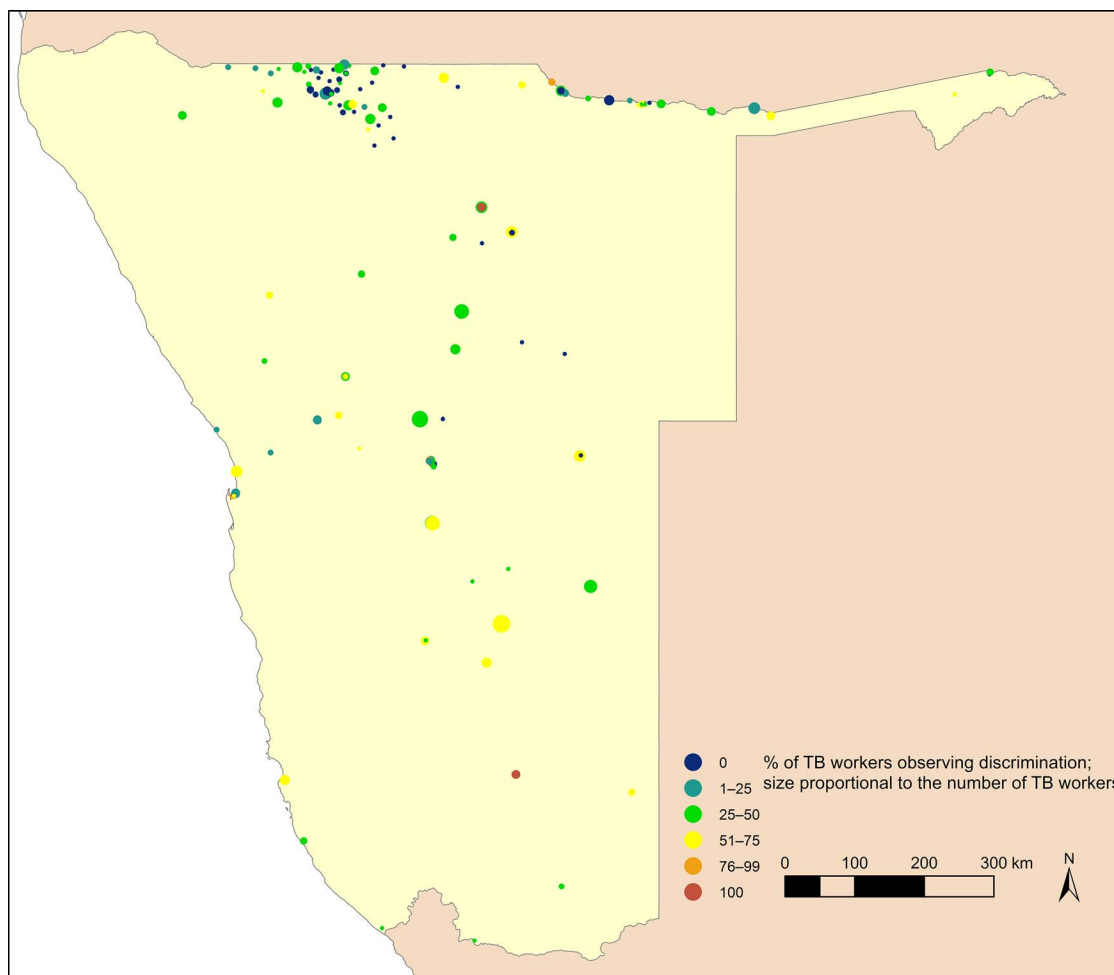


Figure 4 Map of Namibia showing 155 facilities with 741 TB workers, 38% of whom observed discrimination (number of TB workers per facility ranged from 3 to 12). TB = tuberculosis. This image can be viewed online in colour at <http://www.ingentaconnect.com/content/ijatld/ijtld/2017/00000021/a00111s1/art00004>

were more likely to observe discrimination than TB providers in lower level facilities. One explanation for this finding is that TB providers at the primary care level cannot afford the ‘luxury’ of stigmatising behaviour (such as wasting gloves or autoclave by subjecting PLHIV to unnecessary IC procedures) or enough staff to task-shift disparaged patients to lower cadres. Having received training in confidentiality was positively associated with the recognition of discriminatory behaviour. This finding suggests that stigmatisation by HCWs may be reduced by pre-service and on-the-job training, tools that should be tested with well-designed trials. Results in the case of HIV stigma reduction have been modest.⁷

HCWs and TB providers who had received IC training tended to observe less discrimination, as defined in the present study. IC training may reduce stigmatising and ineffective IC practices (i.e., excessive glove use, unnecessary sterilisation), or it may normalise or legitimise their use. It is well documented that some patients and HCWs consider the use of masks and isolation of TB patients to be stigmatising

‘social distancing’,^{7,20,21,32} while others consider these behaviours to be value-neutral and affirming of the HCW’s right to biosafety.^{33–37} The FAST (Find cases Actively, Separate safely, and Treat effectively) approach is a cornerstone of modern TB IC and it has, at its core, the explicit aim of physical isolation of those with cough from the general population for the greater good. Rarely addressed is the social cost of using masks and isolation practices that set TB patients apart (‘marking’). If applied selectively, such visible markers (stigmata) can be a form of involuntary disclosure of disease status.^{20,21,38} While IC laws and policy guidance documents assert that IC efforts should uphold the patient’s ‘rights and dignity’, this is typically operationalised as ensuring patient confidentiality and consent.

Factors associated with the willingness to report stigma

Speaking up against stigma was based on the only related question available: the willingness to report stigma if observed outside the health facility. We

Table 4 Health care provider and organisational characteristics associated with the willingness to report authorities or relevant groups about observed stigma outside the health facility

Characteristic	Health care provider willing to report stigma to authority				Bivariate analyses*	Multivariate analyses	
	Kenya <i>n</i> (%)	Namibia <i>n</i> (%)	Tanzania <i>n</i> (%)	Overall (yes) [†] <i>n</i> (%)	OR (95%CI)	aOR-1 (95%CI) [‡] (<i>n</i> = 5010)	aOR-2 (95%CI) [§] (<i>n</i> = 5861)
Sex							
Male	1493 (91)	222 (77)	530 (59)	2244 (80)	Reference	Reference	—
Female	2093 (82)	562 (73)	913 (66)	3569 (76)	0.85 (0.56–1.27)	0.97 (0.61–1.54)	—
Age category, years							
20–29	892 (75)	251 (72)	183 (68)	1326 (73)	Reference	Reference	
30–39	1272 (96)	198 (69)	493 (64)	1962 (82)	2.23 (1.17–4.24) [¶]	2.57 (1.32–4.99) [¶]	2.19 (1.24–3.87) [¶]
40–49	862 (83)	172 (76)	452 (60)	1486 (74)	1.10 (0.40–3.09)	1.15 (0.51–2.55)	1.14 (0.50–2.60)
≥ 50	560 (87)	163 (82)	316 (65)	1039 (78)	1.43 (0.66–3.10)	1.90 (0.89–4.05) [#]	1.65 (0.79–3.46)
Type of provider							
Clinician	446 (88)	34 (70)	432 (61)	911 (72)	Reference	Reference	Reference
Nurse/midwife	1893 (87)	474 (73)	357 (62)	2724 (80)	1.17 (0.62–2.21)	1.08 (0.59–1.99)	0.98 (0.56–1.70)
Auxiliary nurse	244 (64)	6 (100)	515 (69)	766 (67)	1.01 (0.42–2.44)	1.40 (0.65–3.04)	1.35 (0.65–2.82)
Laboratory staff	608 (87)	29 (64)	110 (57)	747 (79)	1.05 (0.43–2.56)	0.68 (0.07–6.68)	1.23 (0.55–2.76)
HIV counsellor	346 (97)	194 (78)	13 (100)	553 (89)	1.91 (0.89–4.07) [#]	6.37 (1.39–29.24) [#]	1.30 (0.58–2.93)
Other	50 (78)	47 (84)	1 (16)	98 (79)	1.22 (0.31–4.78)	1.27 (0.28–5.75)	1.08 (0.25–4.56)
Education level, quantiles**							
1	1149 (83)	180 (75)	569 (65)	1898 (76)	Reference	Reference	Reference
2	1355 (92)	204 (74)	202 (66)	1760 (86)	1.76 (0.9–3.43) [†]	1.23 (0.66–2.78)	1.65 (0.85–3.20)
3	670 (80)	273 (74)	526 (62)	1468 (71)	0.95 (0.58–1.54)	0.86 (0.47–1.57)	0.91 (0.50–1.64)
4	413 (81)	128 (73)	146 (62)	686 (74)	0.71 (0.37–1.36)	0.50 (0.25–1.01) [#]	0.69 (0.33–1.46)
Training in infection control received							
None	2148 (81)	455 (74)	1210 (64)	3680 (74)	Reference	Reference	Reference
Yes, in the previous year	819 (97)	141 (73)	154 (65)	1054 (87)	2.30 (0.99–5.37) [#]	1.66 (0.83–3.34)	2.03 (0.92–4.48)
Yes, in the previous 2–3 years	619 (89)	188 (75)	80 (61)	1079 (81)	2.49 (0.93–6.61) [#]	2.13 (0.97–4.65) [#]	2.27 (1.02–5.10) [¶]
Training in confidentiality received							
No	2148 (81)	455 (74)	1210 (64)	3812 (74)	Reference	Reference	Reference
Yes, in the previous year	819 (79)	141 (73)	154 (65)	1114 (87)	2.73 (1.17–6.36) [#]	2.36 (1.15–4.83) [¶]	2.23 (1.11–4.47) [¶]
Yes, in the previous 2–3 years	619 (89)	188 (75)	80 (61)	887 (82)	1.45 (0.76–2.76)	0.84 (0.44–1.63)	1.13 (0.65–1.97)
Supervision received							
None	596 (87)	120 (71)	178 (69)	894 (80)	Reference	Reference	—
Yes, >3 months ago	734 (85)	152 (74)	332 (64)	1217 (77)	1.15 (0.36–3.71)	1.61 (0.75–3.49)	—
Yes, <3 months ago	2256 (85)	512 (75)	931 (62)	3699 (77)	1.09 (0.49–2.55)	1.12 (0.58–2.17)	—
Provide HIV counselling							
No	519 (68)	241 (74)	1008 (65)	1767 (67)	Reference	Reference	—
Yes	2458 (90)	519 (74)	317 (60)	3294 (83)	1.99 (0.89–4.45) [#]	1.44 (0.82–2.51)	—
Provide TB-related services							
No	1625 (84)	125 (69)	633 (65)	2383 (77)	Reference	Reference	—
Yes	1352 (87)	449 (74)	694 (63)	2494 (76)	1.21 (0.72–2.05)	1.23 (0.77–1.98)	—
Stigmatising behaviour occurs within the health facility							
No	1146 (83)	464 (75)	732 (60)	2342 (72)	Reference	Reference	
Yes	2439 (87)	319 (73)	708 (68)	3467 (81)	1.57 (0.97–2.55) [#]	1.46 (0.97–2.22) [#]	1.54 (1.00–2.35)
Type of facility							
Hospital	170 (86)	279 (70)	98 (53)	547 (70)	Reference	Reference	Reference
Health centre	443 (87)	137 (73)	246 (64)	825 (76)	1.16 (0.74–1.80)	1.35 (0.76–2.38)	1.18 (0.72–1.92)
Clinic	1028 (90)	324 (77)	—	1351 (87)	2.28 (1.33–3.92) [¶]	2.33 (1.22–4.47) [¶]	2.09 (1.16–3.78) [¶]
Dispensary	1914 (83)	—	1099 (65)	3013 (75)	1.26 (0.73–2.18)	1.41 (0.75–2.65)	1.37 (0.80–2.35)
Other	32 (92)	45 (84)	—	77 (88)	3.01 (1.33–6.84) [†]	6.03 (1.85–19.7) [¶]	3.13 (1.24–7.84) [¶]
Managing authority							
Public	1766 (81)	722 (74)	824 (64)	3312 (75)	Reference	Reference	Reference
Private	1820 (90)	62 (76)	619 (62)	2501 (81)	1.55 (0.96–2.48) [#]	1.56 (0.23–2.64) [#]	1.62 (0.99–2.62) [†]
Country							
Kenya				3586 (85)	Reference	Reference	Reference
Namibia				784 (74)	0.29 (0.18–0.48) [¶]	0.33 (0.17–0.68) [¶]	0.32 (0.18–0.58) [¶]
Tanzania				1443 (63)	0.13 (0.08–20.3) [¶]	0.20 (0.09–0.44) [¶]	0.19 (0.09–0.39) [¶]

* Country was included as a fixed effect in all bivariate models, the individual ORs per model are not presented in this table but ranged from 0.25 (TB services) to 0.34 (private facility) (all $P < 0.05$) in Namibia, and for Tanzania from 1.11 (TB services) to 0.17 (HIV counselling).

[†] Due to rounding of individual country weighted numbers, the overall value is not always exactly the sum of the weighted individual country numbers. [‡] ORs adjusted for all variables (full model).

[§] ORs adjusted for those variables with $P < 0.1$ in the full model.

[¶] $P < 0.05$.

[#] $P < 0.1$.

** See Appendix for more information.

OR = odds ratio; CI = confidence interval; aOR = adjusted OR; HIV = human immunodeficiency virus; TB = tuberculosis.

Table 5 Tuberculosis health care provider and organisational characteristics associated with the willingness to report observed stigma outside the health facility to authorities or relevant groups

Characteristic	Multivariate analyses	
	aOR-1 (95%CI)*	aOR-1 (95%CI) [†]
Sex		
Male	Reference	—
Female	0.96 (0.53–1.75)	—
Age category, years		
20–29	Reference	Reference
30–39	3.08 (1.46–6.47)*	2.88 (1.36–6.10)
40–49	1.17 (0.52–2.62)	1.16 (0.50–2.66)
≥ 50	1.96 (0.91–4.20)	1.84 (0.85–3.95)
Provider type		
Clinician	Reference	Reference
Nurse/midwife	0.80 (0.36–1.76)	0.99 (0.46–2.11)
Auxiliary nurse	1.57 (0.60–4.14)	2.07 (0.90–4.79)
Laboratory staff	52.05 (6.93–391.18) [‡]	45.01 (5.11–396.76)
HIV counsellor	6.45 (0.16–255.03)	10.47 (0.24–454.51)
Other	2.11 (0.56–7.99)	3.41 (0.98–11.82)
Education level, quantiles [§]		
1	Reference	—
2	0.73 (0.32–1.64)	—
3	0.79 (0.35–1.74)	—
4	0.31 (0.12–0.78)	—
Training in infection control received		
None	Reference	Reference
Yes, in the previous year	2.00 (0.86–4.67)	1.99 (0.86–4.63)
Yes, in the previous 2–3 years	2.09 (0.99–4.37) [¶]	2.13 (1.03–4.39)
Training confidentiality received		
No	Reference	—
Yes, in the previous year	1.91 (0.88–4.18)	—
Yes, in the previous 2–3 years	0.95 (0.42–2.13)	—
Supervision received		
None	Reference	—
Yes, >3 months ago	0.59 (0.22–1.58)	—
Yes, <3 months ago	0.81 (0.36–1.79)	—
Provide HIV counselling		
No	Reference	—
Yes	1.12 (0.61–2.06)	—
Stigmatising behaviour occurs within the health facility		
No	Reference	Reference
Yes	1.92 (1.12–3.32)*	1.85 (1.05–3.27)
Type of facility		
Hospital	Reference	Reference
Health centre	1.55 (0.82–2.96)	1.64 (0.87–3.08)
Clinic	2.57 (1.15–5.78)*	2.62 (1.17–5.85)
Dispensary	1.67 (0.81–3.43)	1.71 (0.83–3.51)
Other	8.83 (1.76–44.45) [‡]	8.99 (1.82–44.43)
Managing authority		
Public	Reference	Reference
Private	1.09 (0.55–2.14)	—
Country		
Kenya	Reference	Reference
Namibia	0.25 (0.11–0.58) [¶]	0.22 (0.10–0.50)
Tanzania	0.09 (0.03–0.23) [¶]	0.10 (0.04–0.23)

* ORs adjusted for all variables (full model).

[†] ORs adjusted for those variables with $P < 0.1$ in the full model.[‡] $P < 0.05$.[§] See Appendix for more information.[¶] $P < 0.1$.

OR = odds ratio; CI = confidence interval; aOR = adjusted OR; HIV = human immunodeficiency virus; TB = tuberculosis.

believe that if a person is willing to report stigma outside the health facility, he/she would act as a champion against stigma if it is observed at the facility. Our research found no particular sociodemographic group more willing to stand up to stigma beyond the 30–39-year age group. All types of staff

can be potential agents of change and amplifiers of anti-stigma messages and behaviours. Stigma experts argue that to reduce stigma in health care facilities, both clinical and non-clinical staff should be engaged, and our findings would appear to concur with this conclusion.^{19,39} Overall, HCWs in Tanzania ap-

peared most reticent to speak up about enacted stigma. TB providers working in a clinic were more willing to report stigma than those working in a hospital. This finding may reflect the more hierarchical organisational cultures in secondary and tertiary institutions.

Methodology/strengths and limitations

In-depth secondary analyses of the combined data of three conducted SPA surveys helped us identify the factors associated with the recognition and willingness to report enacted stigma towards TB-HIV patients. Pooling country data in the regression analysis increased its power, but some contradictory effects between countries were observed in the univariate analysis. Our analyses were limited to the seven items (measures with low Cronbach's α) on enacted stigma in the SPA surveys. The overuse of protective measures and avoidance behaviours are not ideal stigma metrics, as they may reflect ignorance of the routes of transmission. Items that capture the dimensions of stigma that persist after the personal risk of contagion has been eliminated are preferable. A more comprehensive behavioural measure of stigma would also have included acts of blaming, shaming and labelling.¹⁹

We found that observations of discrimination within facilities in Kenya and Tanzania were clustered. This does not mean that the HCWs in one facility have all observed the same discriminatory behaviour, as the outcome was defined as having seen at least one of the seven types of behaviour provided. Not all of the dimensions of stigma recognition defined as important in our conceptual framework could be accounted for in this secondary data analysis. For example, we were unable to explore the association between the availability/quality of TB IC policies and observed discrimination and willingness to report. The question on willingness to report was a self-reported response involving a hypothetical situation and therefore prone to overestimation. It is not certain that the person would truly inform the authorities or relevant groups if faced with the situation described. In the SPA, stigmatising actions are framed as behavioural interactions between care givers and patients, but do not query HCWs on laws or policies that exclude or disparage. Furthermore, they do not consider architectural or organisational structures that marginalise,⁴⁰ nor assess HCW's 'courtesy stigma', the social and professional price often paid by HCWs for caring for stigmatised patients.⁴¹ These are important areas to examine to fully understand how stigma operates in health care settings. Clustering of stigmatising behaviour calls for differentiated approaches, including qualitative and ethnographic work on why stigma thrives in certain settings compared with others.

CONCLUSION/RECOMMENDATION

Supervision, exposure to patient rights and training in confidentiality improve HCWs' understanding and advocacy of dignified and respectful TB-HIV care. Innovative approaches are needed to reduce stigmatising behaviour while ensuring HCW biosafety through the use of evidence-based IC. The good news is that all HCWs are potential allies, change agents and amplifiers of anti-stigma messages, and wider engagement is required.

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APPENDIX

Table A.1 Overview of stigma-related questions used in selected SPA surveys

Indirect questions (unspecified stigma) from Health Worker Interview: Section 9: Working with HIV/AIDS clients	
w161	Do you think that a health care worker who has HIV but is not sick should be allowed to continue work? (yes/no/don't know)
HCW observation of the presence of (HIV) discrimination (enacted stigma) in their health facility	
	In the previous 12 months, have you seen or observed the following happen in this health care facility because a client had known or suspected HIV/AIDS? (read each scenario below) (yes/no/not applicable/don't know)
w162a	01 Testing a client for HIV infection without his/her consent
w162b	02 Requiring some clients to be tested for HIV before scheduling surgery
w162c	03 Using latex gloves for performing non-invasive exams on clients with suspected HIV
w162d	04 Extra precautions been taken in the sterilisation of instruments used on HIV-positive patients
w162e	05 Health providers gossiping about a client's HIV status
w162f	06 Because a patient is HIV-positive a senior provider moving the client to a junior provider
w162g	07 An HIV-positive patient receiving less care/attention than other patients
w163	Have you ever heard of the word stigma? (yes/no)
w164y	Does stigma occur in health facilities? (yes/no/uncertain-don't know)
	Please give some examples of stigma in the health facility (open-ended with six pre-specified possibilities)
w164a	A Using latex gloves for a non-invasive procedure on clients with known or suspected HIV
w164b	B Extra precaution in the sterilisation of equipment used on HIV+ clients
w164c	C Providers gossiping about a client's HIV status
w164d	D Less care/attention given to HIV+ clients
w164e	E Senior staff moving a HIV+ client to junior staff
w164f	F Staff unwilling to shake hands with HIV+ clients
w164x	X Other
w164z	Z Don't know if it occurs
HCW observation of the presence of (HIV) discrimination (enacted stigma) in the community	
w165y	Does stigma occur outside health facilities? (yes/no/uncertain-don't know)
	Where have you observed or heard stigma occur? (open-ended with 5–6 pre-specified possibilities and other)
w165a	A household/family
w165b	B community
w165c	C workplace
w165d	D places of worship
w165e	E places of entertainment
w165f	F learning institutions
w165x	X other places
w165z	Y Don't know if it occurs
	Please give me some examples of stigma that occur outside the health facility (open-ended with 5–6 pre-specified possibilities and other)
w166a	A Separation/divorce if one partner becomes HIV+
w166b	B Neighbours/family gossip about HIV status
w166c	C Not using the business of a person who is HIV+
w166d	D Families/neighbours reluctant to provide funds for care
w166e	E Family members unwilling to share bed/utensils with a patient
w166f	F Isolation/abandonment
w166x	X Other
Behavioural implications of perceived discrimination	
w167	If you ever saw any of the above types of stigma happening to a person because s/he is a PLWHA, would you be willing to inform the authorities or relevant groups if they existed? (yes/no/don't know)

SPA = Service Provision Assessment; HIV = human immunodeficiency virus; AIDS = acquired immune-deficiency syndrome; + = positive; PLWHA = people living with HIV/AIDS.

Operationalisation of health care provider and health facility characteristics

The categories were age (20–29, 30–39, 40–49, ≥50 years); provider type (clinician, nurse/midwife, auxiliary nurse, laboratory staff, human immunodeficiency virus [HIV] counsellor, other); provision of HIV counselling-testing services (yes, no); provision of TB services (yes, no); training received in infection control, including universal precautions and waste management (none, yes in the previous year, yes in the previous 2–3 years); training received in confidentiality and rights to non-discrimination practices for people living with HIV/AIDS (none, yes in the

previous year, yes in the previous 2–3 years); technical support or supervision in work received (no, yes >3 months ago, yes in the previous 3 months); years of education were categorised in quantiles by survey as slightly different phrasing of this question prevented us from comparing absolute years of education across surveys. In Tanzania, participants were asked ‘how many years of primary and secondary education did you complete in total?’ In Namibia and Kenya, the following question was asked: ‘how many years of education have you completed in total starting from primary, secondary and future education?’

Organisational characteristics included facility

Table A.2 General characteristics of health providers and health facilities by survey*

Characteristic	Kenya 2010 <i>n</i> (%)	Namibia 2009 <i>n</i> (%)	Tanzania 2006 <i>n</i> (%)
Facilities in SPA survey, <i>n</i>	695	411	611
Facilities with TB services, <i>n</i>	423	346	404
Respondents, <i>n</i>	3132	1708	2600
Respondents with weighting, <i>n</i>	3051	1679	2591
Weighted respondents, <i>n</i>	4875	1679	2964
Type of facility			
Hospital	216 (4)	634 (38)	217 (7)
Health centre	544 (11)	298 (18)	497 (17)
Clinic	1346 (28)	674 (40)	0
Dispensary	2728 (56)	0	2249 (76)
Other	42 (1)	73 (4)	0
Managing authority			
Public	2576 (53)	1528 (91)	1721 (58)
Private	2299 (47)	151 (9)	1243 (42)
Sex			
Male	1764 (36)	422 (25)	1122 (38)
Female	3110 (64)	1256 (75)	1841 (62)
Missing	0	0	
Age category, years			
20–29	1526 (31)	490 (29)	358 (12)
30–39	1492 (23)	422 (25)	959 (32)
40–49	1126 (23)	391 (23)	993 (34)
≥50	729 (15)	372 (22)	655 (22)
Missing	1 (0.01)	5 (0.3)	0
Type of provider			
Clinician	531 (11)	79 (5)	810 (27)
Nurse/midwife	2461 (51)	1058 (63)	730 (25)
Auxiliary nurse	457 (9)	21 (1)	1106 (37)
Laboratory staff	831 (17)	75 (5)	259 (9)
HIV counsellor	505 (10)	329 (20)	13 (0.4)
Other	89 (2)	116 (7)	10 (0.3)
Missing	0	2 (0.1)	37 (1.2)
Education level			
1	1665 (34)	434 (29)	1266 (43)
2	1677 (34)	447 (25)	399 (14)
3	936 (19)	502 (23)	1019 (34)
4	597 (12)	296 (22)	281 (10)
Training in infection control received			
None	2834 (58)	869 (52)	2588 (87)
Yes, in the previous year	1000 (21)	434 (26)	180 (6)
Yes, in the previous 2–3 years	1040 (21)	374 (22)	195 (7)
Missing			
Training in confidentiality received			
No	3112 (64)	1022 (61)	2519 (85)
Yes, in the previous year	996 (20)	289 (17)	281 (9)
Yes, in the previous 2–3 years	766 (16)	366 (22)	158 (5)
Missing	0.3 (0)	2 (0.2)	5 (0.2)
Supervision received			
None	843 (17)	265 (16)	351 (12)
Yes, >3 months ago	1008 (21)	315 (19)	712 (24)
Yes, <3 months ago	3021 (62)	1076 (64)	1897 (64)
Missing	3 (0.1)	24 (1.4)	4 (0.01)
Provide HIV counselling			
No	903 (19)	609 (36)	2044 (69)
Yes	3137 (64)	997 (59)	653 (22)
Missing	835 (17)	73 (4)	267 (9)
Provide TB-related services			
No	2299 (47)	313 (19)	1355 (46)
Yes	1743 (36)	974 (58)	1344 (45)
Missing	833 (17)	392 (23)	264 (9)

* Estimates were adjusted for sampling weights (health provider weights, facility weights), taking into account the survey design.

SPA = Service Provision Assessment; TB = tuberculosis; HIV = human immunodeficiency virus.

type (hospital, health centre, clinic, dispensary, other) and managing authority. Although the Tanzania questionnaire displayed four categories relevant for managing authority, these had already been pre-coded to two categories in the database—government/parastatal (i.e., public) vs. private—the latter being a combination of private for profit and faith-based. Kenya and Tanzania were aligned to this approach). The category ‘public, not for profit’ included government/local municipality and non-governmental organisations (NGOs)/private not for profit in Kenya; ‘public’ included the Ministry of Health and Social Services, public mission/NGOs, the Ministry of Defence and Police in Namibia; and government/parastatal organisations in Tanzania. The category ‘private’ included private for profit and mission/faith-based in Kenya, and private organisations in Namibia and Tanzania.

Additional statistical considerations

To explore how well the seven scenarios measured the same underlying (discrimination) concept, Cronbach’s α was calculated for each country.¹ Overall Cronbach’s α based on the seven items was 0.67 and similar in all three countries: 0.69 (Kenya), 0.66 (Namibia) and 0.70 (Tanzania). Except for excluding the scenario ‘requiring some clients to be tested for HIV’ in the Kenya dataset (Cronbach’s α 0.81), the exclusion of items did not result in increased internal consistency. As the seven items may represent different latent constructs, we explored internal consistency based on questions related to the ‘fear of infection’ construct (questions w162b, w162c, w162d, w162f) and questions related to the ‘deserve

to disrespect/mistreat’ construct (questions w162a, w162e, w162g). Overall consistency for the ‘fear of infection’ construct was 0.49, but increased to 0.54 when scenario w162b ‘requiring some clients to be tested for HIV before scheduling surgery’ was excluded. Stratified by country, the maximum overall Cronbach’s α based on the four questions was 0.63, whereas the maximum after excluding scenario w162b was 0.70 (for Tanzania). Overall consistency for the ‘deserve to disrespect/mistreat’ construct was 0.71, which increased to 0.73 after excluding the w162a construct ‘testing a client for HIV infection without their consent’. Stratified by country, the maximum overall Cronbach’s α based on the three questions was 0.76 (Kenya); the exclusion of a scenario did not result in a large increase (maximum 0.77, Kenya). As limiting our analyses to one construct or the exclusion of one scenario did not result in increased internal consistency, we chose to include information about all seven items to operationalise the observation of enacted stigma. Therefore, we used all items to operationalise discrimination. We chose to dichotomise to increase interpretability of the measures of association (odds ratios) compared with the regression coefficient associated with an ordinal scale that did not necessarily reflect an increased level of observed stigma by health providers.

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RÉSUMÉ

CONTEXTE : Structures de santé au Kenya, en Tanzanie et en Namibie.

OBJECTIF : Etudier les corrélations entre l'observation de la discrimination et la volonté de rapporter les comportements stigmatisants vis-à-vis des personnes vivant avec le virus de l'immunodéficience humaine parmi le personnel de santé (HCW).

SCHÉMA : Une analyse de régression logistique à effets mixtes de 9516 entretiens avec des HCW dont 4062 (43%) travaillant dans la TB dans le cadre des *Service Provision Assessments* (SPA) (évaluation de la prestation de services) réalisés entre 2006 et 2010.

RÉSULTATS : La discrimination (≈stigmatisation effective) a été observée par 1042 (60%), 384 (40%) et 907 (69%) HCW TB au Kenya, en Namibie et en Tanzanie, respectivement, ce qui est similaire à la tendance observée parmi tout le personnel. Les observations de discrimination ont été groupées au niveau des structures de santé au Kenya et la cartographie de la discrimination au niveau des structures a suggéré un regroupement géographique. Les HCW ont été plus enclins à observer des

discriminations dans les structures sans supervision de soutien régulière (OR ajusté [ORa] 2,33 ; IC95% 1,09–4,96). Aucune des caractéristiques des HCW n'a prédit l'intention de les rapporter. Une formation aux droits des patients et à la confidentialité prédispose les HCW à reconnaître la discrimination (ORa 2,51 ; IC95% 1,19–5,28) et à la volonté de la rapporter (ORa 2,23 ; IC95% 1,11–4,47). L'exposition à une formation à la lutte contre l'infection TB (IC) a été associée à une plus grande volonté de rapporter la discrimination (ORa 2,13 ; IC95% 1,03–4,39).

CONCLUSION : La supervision et l'exposition à la formation aux droits des patients et à la confidentialité améliorent la compréhension des HCW (et leur plaidoyer) vis-à-vis de soins TB-VIH dignes et respectueux. Tous les travailleurs de santé peuvent être des alliés, des agents du changement et des amplificateurs d'un message contre la stigmatisation et un large engagement est requis. Les essais d'approches innovantes visant à réduire la discrimination—tout en assurant une prise en charge individuelle appropriée—sont nécessaires.

RESUMEN

MARCO DE REFERENCIA: Establecimientos de atención de salud en Kenya, Tanzania y Namibia.

OBJETIVO: Estudiar en los profesionales de salud (HCW) los correlatos del hecho de observar la discriminación y la disposición a notificar comportamientos estigmatizantes hacia las personas que padecen infección por el virus de la inmunodeficiencia humana (VIH).

MÉTODO: Se analizaron mediante regresión logística de efectos mixtos los datos de 9516 entrevistas realizadas a HCW, de los cuales 4062 encargados de la atención de la tuberculosis (TB) (43%), como parte de las Evaluaciones de Prestación de Servicios llevadas a cabo del 2006 al 2010.

RESULTADOS: Refirieron haber observado discriminación (que se asimila al estigma declarado) 1042 HCW en TB de Kenya (60%), 384 de Namibia (40%) y 907 de Tanzania (69%) y se encontró una tendencia equivalente en todos los HCW. Las observaciones de discriminación se agrupaban en conglomerados a nivel de los establecimientos en Kenya y el análisis cartográfico de esta discriminación indicó conglomerados geográficos. Era más probable que observaran discriminación los HCW de establecimientos que no contaban con una supervisión

de apoyo periódica (aOR 2,33; IC95% 1,09–4,96). Ninguna característica de los HCW permitía pronosticar la disponibilidad a notificar la discriminación. La capacitación en materia de derechos de los pacientes y confidencialidad predispone a los HCW a reconocer la discriminación (aOR 2,51; IC95% 1,19–5,28) y a estar dispuestos a notificarla (aOR 2,23; IC95% 1,11–4,47). La exposición a la capacitación sobre el control de la infección tuberculosa se asoció con una mayor disposición a notificar la estigmatización (aOR 2,13; IC95% 1,03–4,39).

CONCLUSIÓN: La supervisión y la exposición a la capacitación en materia de derechos de los pacientes y confidencialidad mejoran la comprensión que tienen los HCW de una atención digna y respetuosa a los pacientes que padecen TB e infección por el VIH (y la promoción de la misma). Todos los HCW están igualmente dispuestos a ser aliados, agentes del cambio y amplificadores de los mensajes contra la estigmatización y se precisa lograr un compromiso más amplio. Es necesario llevar a cabo ensayos clínicos con enfoques innovadores encaminados a disminuir la discriminación y al mismo tiempo procurar un control adecuado de las infecciones.